

SEQUENCE LISTING

<110> McWhirter, John

<120> CELL SURFACE PROTEIN ASSOCIATED WITH HUMAN CHRONIC LYMPHOCYTIC LEUKEMIA

<130> ALEX-P01-107

<140> US 10/559,438

<141> 2004-06-02

<150> US 60/530,094

<151> 2003-12-15

<150> US 60/475,156

<151> 2003-06-02

<160> 86

<170> PatentIn version 3.2

<210> 1

<211> 183

<212> PRT

<213> human

<400> 1

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1 5 10 15

Val Pro Val Gly Arg Gly Asn Tyr Glu Glu Leu Glu Asn Ser Gly Asp  
20 25 30

Thr Thr Val Glu Ser Glu Arg Pro Asn Lys Val Thr Ile Pro Ser Thr  
35 40 45

Phe Ala Ala Val Thr Ile Lys Glu Thr Leu Asn Ala Asn Ile Asn Ser  
50 55 60

Thr Asn Phe Ala Pro Asp Glu Asn Gln Leu Glu Phe Ile Leu Met Val  
65 70 75 80

Leu Ile Pro Leu Ile Leu Leu Val Leu Leu Leu Ser Val Val Phe  
85 90 95

Leu Ala Thr Tyr Tyr Lys Arg Lys Arg Thr Lys Gln Glu Pro Ser Ser  
100 105 110

Gln Gly Ser Gln Ser Ala Leu Gln Thr Tyr Glu Leu Gly Ser Glu Asn  
115 120 125

Val Lys Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu Ile  
130 135 140

Glu Met Glu Glu Leu Asp Lys Trp Met Asn Ser Met Asn Arg Asn Ala  
145 150 155 160

Asp Phe Glu Cys Leu Pro Thr Leu Lys Glu Glu Lys Glu Ser Asn His  
165 170 175

Asn Pro Ser Asp Ser Glu Ser  
180

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ttatgaggaa ttagaaaact caggagatac aactgtggaa tctgaaagac caaataaaagt 180  
gactattcca agcacatttg ctgcagtgac catcaaagaa acattaaatg caaatataaa 240  
ttctaccaac tttgctccgg atgaaaatca gtttagagttt atactgatgg tgttaatccc 300  
attgatttta ttggtcctct tacttttatac cgtggatttc cttgcaacat actataaaag 360  
aaaaagaact aacaagaacc ttctagccaa ggatctcaga gtgctttaca gacatatgaa 420  
ctggaaagtg aaaacgtgaa agtccctatt tttgaggaag atacaccctc tgttatggaa 480  
attgaaatgg aagagcttga taaatggatg aacagcatga atagaaaatgc cgactttgaa 540  
tgtttaccta ccttgaagga agagaaggaa tcaaattaca acccaagtga cagtgaatcc 600  
taaacctgaa tggcgctcat gtttccaag agaaggcagcc cctgagggag tctgctgagg 660  
ctgccaacag gatcc 675

<210> 3  
<211> 181  
<212> PRT  
<213> murine

<400> 3

Met Thr Val Pro Cys Ala Ala Leu Val Leu Ala Leu Gly Leu Ala Phe  
1 5 10 15

Gly Gln Ser Ser Gln Gly Asn Asp Glu Glu Ser Glu Tyr Ser Gly Gln  
20 25 30

Ser Ile Thr Glu Glu Asn Ser Glu Asp Glu Thr Thr Arg Ser Ala  
35 40 45

Leu Ala Thr Val Thr Glu Ala Leu Ala Glu Asn Val Asn Ser Thr  
50 55 60

His Thr Asn Asp Thr Ser Asn Gln Val Glu Phe Ile Leu Met Val Ala  
65 70 75 80

Ile Pro Leu Ala Ala Leu Leu Ile Leu Phe Met Val Leu Ile Ala  
85 90 95

Thr Tyr Phe Lys Ser Lys Arg Pro Lys Gln Glu Pro Ser Ser Gln Gly  
100 105 110

Ser Gln Ser Ala Leu Gln Thr His Glu Leu Gly Gly Glu Thr Leu Lys  
115 120 125

Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu Ile Glu Met  
130 135 140

Glu Glu Leu Asp Lys Trp Met Asn Ser Met Asn Arg Asn Ala Asp Tyr  
145 150 155 160

Glu Cys Leu Pro Thr Leu Lys Glu Glu Lys Glu Pro Asn Pro Ser Pro  
165 170 175

Ser Asp Asn Glu Ser  
180

<210> 4  
<211> 367  
<212> PRT  
<213> rat

<400> 4

Met Thr Arg Pro Pro Tyr Gln Glu Ala Pro Val Gly Asp Leu Gln Met

1

5

10

15

Gly Asp Arg Gln Glu Ser Ser Gly Asp Lys Asp Arg Asn Asp Glu Asp  
20 25 30

Ser Glu Tyr Ser Gly His Ser Thr Thr Glu Glu Asp Thr Ala Glu Glu  
35 40 45

Glu Thr Thr Arg Ala Leu Ala Thr Val Thr Thr Glu Ala Leu Ala Glu  
50 55 60

Ser Ala Asn Ser Thr His Ile His Gly Thr Ser Asn Gln Val Glu Phe  
65 70 75 80

Ile Leu Met Val Ala Val Pro Leu Ala Ala Leu Leu Ile Leu Leu Phe  
85 90 95

Ala Ile Leu Ile Val Ile Tyr Phe Lys Ser Arg Arg Pro Lys Gln Glu  
100 105 110

Pro Ser Ser Gln Gly Ser Gln Ser Ala Leu Gln Thr Leu Arg Leu Leu  
115 120 125

Leu Ser Leu Glu Thr Lys Arg Pro Glu Pro Ser Val Ala Pro Ser Leu  
130 135 140

Gly Pro Arg Pro Thr Ile Pro Leu Pro Thr Ala Gln Arg Gly Pro Cys  
145 150 155 160

Gln Gln Ser Gly Cys Lys Ala Gly Thr Lys Gly Gly Arg Gln Asp Arg  
165 170 175

Gly Glu Asn Glu Met Ala Gly Arg Lys Gly Thr Lys Trp Lys Pro Val  
180 185 190

Gly Asn Gly Pro Gly Ala Glu Lys Met Arg Pro Gln Lys Ala Phe Cys  
195 200 205

Ser Phe Asn Ala Asp Tyr Gly Ala Ser His Ser Val His Leu Glu His  
210 215 220

Phe Gly Asn Gly Phe Leu Asn Phe Ser Ile Ile Cys Met Gln Val Gly  
225 230 235 240

Phe Cys Pro Pro Pro Ser Leu Trp Gly Ala Gln Met Arg Val Glu Ile  
245 250 255

Arg Ala His Ser Gly Thr Val Glu Pro Leu Ala Val Trp Glu Ile Gly  
260 265 270

Gly Glu Val Ala Lys Gln Gly Lys Gly Thr Asp Asp Leu Gly Gly Glu  
275 280 285

Thr Leu Lys Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu  
290 295 300

Ile Glu Met Glu Glu Leu Asp Lys Trp Met Asn Ser Met Asn Arg Asn  
305 310 315 320

Gly Thr Trp Lys Thr Lys Ala Phe Ala Cys Leu Cys Gly Asn Ala Gly  
325 330 335

Leu Asp Gly Cys Leu Cys Phe Ile Ser Asn Ser Glu Asn Leu Lys Leu  
340 345 350

Cys Phe Ile Trp His Ser Thr Cys Ala Leu Leu Lys Asp Pro Val  
355 360 365

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<213> artificial sequence

<220>  
<223> FLJ32028 with an HA epitope tag

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ttatccatat gatgttccag attatgctta tgaggaatta gaaaactcag gagataacaac 180  
tgtggaatct gaaagaccaa ataaagtgac tattccaagc acatggctg cagtgaccat 240  
caaagaaaca tttaaatgcaa atataaattc taccaacttt gctccggatg aaaatcagtt 300  
agagtttata ctgatggtgt taatcccatt gattttattg gtcctcttac ttttatccgt 360  
ggtattcctt gcaacatact ataaaagaaa aagaactaaa caagaacctt ctagccaagg 420

atctcagagt gctttacaga catatgaact gggaaagtcaa aacgtgaaag tcccttatttt	480
tgaggaagat acaccctctg ttatggaaat tgaaatggaa gagcttgata aatggatgaa	540
cagcatgaat agaaatgccg actttgaatg tttacctacc ttgaaggaag agaaggaatc	600
aaatcacaac ccaagtgaca gtgaatccta aacctgaatg gcgcctatgt tttccaagag	660
aagcagcccc tgagggagtc tgctgaggct gccaacagga tcc	703

<210> 6  
<211> 192  
<212> PRT  
<213> artificial sequence

<220>  
<223> FLJ32028 with HA epitope tag

<400> 6

Met Gln Ala Pro Arg Ala Ala Leu Val Phe Ala Leu Val Ile Ala Leu			
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Val Pro Val Gly Arg Gly Asn Tyr Pro Tyr Asp Val Pro Asp Tyr Ala		
20	25	30

Tyr Glu Glu Leu Glu Asn Ser Gly Asp Thr Thr Val Glu Ser Glu Arg		
35	40	45

Pro Asn Lys Val Thr Ile Pro Ser Thr Phe Ala Ala Val Thr Ile Lys		
50	55	60

Glu Thr Leu Asn Ala Asn Ile Asn Ser Thr Asn Phe Ala Pro Asp Glu			
65	70	75	80

Asn Gln Leu Glu Phe Ile Leu Met Val Leu Ile Pro Leu Ile Leu Leu		
85	90	95

Val Leu Leu Leu Leu Ser Val Val Phe Leu Ala Thr Tyr Tyr Lys Arg		
100	105	110

Lys Arg Thr Lys Gln Glu Pro Ser Ser Gln Gly Ser Gln Ser Ala Leu		
115	120	125

Gln Thr Tyr Glu Leu Gly Ser Glu Asn Val Lys Val Pro Ile Phe Glu		
130	135	140

Glu Asp Thr Pro Ser Val Met Glu Ile Glu Met Glu Glu Leu Asp Lys  
145 150 155 160

Trp Met Asn Ser Met Asn Arg Asn Ala Asp Phe Glu Cys Leu Pro Thr  
165 170 175

Leu Lys Glu Glu Lys Glu Ser Asn His Asn Pro Ser Asp Ser Glu Ser  
180 185 190

<210> 7  
<211> 637  
<212> DNA  
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<220>  
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tccccgcgca gccctagtct tcgcccgtt gatcgcgctc gttcccgtcg gccggggtaa 120  
ttatgaggaa ttagaaaaact caggagatac aactgtggaa tctgaaagac caaataaaagt 180  
gactattcca agcacatttgc ctgcagtgtac catcaaagaa acattaaatg caaatataaa 240  
ttctaccaac tttgctccgg atgaaaatca gtttagagttt atactgatgg tgttaatccc 300  
attgatttta ttggcctct tactttatc cgtggatttc cttgcaacat actataaaag 360  
aaaaagaact aaacaagaac cttctagcca aggatctcag agtgctttac agacatatga 420  
actggaaagt gaaaacgtga aagtccstat ttttgggaa gatacaccct ctgttatgga 480  
aattgaaatg gaagagcttgc ataaatggat gaacagcatg aatagaaatg ccgactttga 540  
atgtttacct accttgaagg aagagaagga atcaaatcac aacccaagtg acagtgaatc 600  
ctatccatat gatgttccag attatgctta aggatcc 637

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<211> 192  
<212> PRT  
<213> artificial sequence

<220>  
<223> FLJ32028 with HA epitope tag

<400> 8

Met Gln Ala Pro Arg Ala Ala Leu Val Phe Ala Leu Val Ile Ala Leu  
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Val Pro Val Gly Arg Gly Asn Tyr Glu Glu Leu Glu Asn Ser Gly Asp  
20 25 30

Thr Thr Val Glu Ser Glu Arg Pro Asn Lys Val Thr Ile Pro Ser Thr  
35 40 45

Phe Ala Ala Val Thr Ile Lys Glu Thr Leu Asn Ala Asn Ile Asn Ser  
50 55 60

Thr Asn Phe Ala Pro Asp Glu Asn Gln Leu Glu Phe Ile Leu Met Val  
65 70 75 80

Leu Ile Pro Leu Ile Leu Leu Val Leu Leu Leu Ser Val Val Phe  
85 90 95

Leu Ala Thr Tyr Tyr Lys Arg Lys Arg Thr Lys Gln Glu Pro Ser Ser  
100 105 110

Gln Gly Ser Gln Ser Ala Leu Gln Thr Tyr Glu Leu Gly Ser Glu Asn  
115 120 125

Val Lys Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu Ile  
130 135 140

Glu Met Glu Glu Leu Asp Lys Trp Met Asn Ser Met Asn Arg Asn Ala  
145 150 155 160

Asp Phe Glu Cys Leu Pro Thr Leu Lys Glu Glu Lys Glu Ser Asn His  
165 170 175

Asn Pro Ser Asp Ser Glu Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala  
180 185 190

<210> 9  
<211> 1421  
<212> DNA  
<213> murine

<220>  
<221> misc\_feature  
<222> (40)..(40)  
<223> n = degenefacy in code

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acctgcagaa accaggccag tctccaaagc tcctgatcta caaagttcc aaccgatttt	180
ctggggtccc agacaggttc agtggcagtg gatcagggac agatttcaca ctcaagatca	240
gcagagtgga ggctgaggat ctgggagttt attactgctt tcaaggttca catgttccgc	300
tcacgttcgg tgctggacc aagctggagc tgaaacgggc tgatgctgca ccaactgtat	360
ccatcttccc accatccagt gagcagttaa catccggagg tgcctcagtc gtgtgcttct	420
tgaacaactt ctacccaaa gacatcaatg tcaagtggaa gattgatggc agtgaacgac	480
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gcagcaccct cacgttgacc aaggacgagt atgaacgaca taacagctat acctgtgagg	600
ccactcacaa gacatcaact tcacccattt tcaagagctt caacaggaat gagtgttaag	660
cggccgcact agatataatt aaggagataa atatgaaata tctgctgccg accgcggcgg	720
cgggcctgct gctgctggcg gcgcagccgg cgatggcgct cgaggtgaag ctggtgagg	780
ctgggggagg cttagtgaag cctggagggt ccctgaaact ctcctgtgca gcctctggat	840
tcactttcag tgactatgcc atgtcttggg ttgcgcagac tccagagaag aggctggagt	900
gggtcgcattc aatttagtagt ggtggtagca cctattatct agacagtgtg aagggccgat	960
tcaccatctc cagagataat gccaggaaca tcctgtacct gcaaattgagc agtctgaggt	1020
ctgaggacac ggccatgtat tattgtgtaa gaagttagac gaactactgg ggccaaggca	1080
ccactctcac agtctcctca gccaaaacga cacccccatc tgtctatcca ctggccctg	1140
gatctgctgc ccaaactaac tcctgtataa ccctaggctg cttggtcaag gactactcc	1200
ccgaaccgggt gacgggtgtcg tggaaactcag ggcgtctgac cagcggcgtg cacaccttcc	1260
cggctgtcct acagtcctca ggactctact ccctcagcag cgtggtgacc gtgcctatcca	1320
gcagcttggg cacccagacc tacatctgca acgtgaatca caagcccagc aacaccaagg	1380
tggacaagaa agttgagccc aaatcttgcg acaaaaactag t	1421

<210> 10  
<211> 474  
<212> PRT  
<213> murine

<220>  
<221> MISC\_FEATURE

<222> (14)..(14)  
<223> Xaa = any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (220)..(220)  
<223> Xaa = any amino acid

<400> 10

Tyr Val Leu Met Thr Gln Thr Pro Leu Ser Leu Pro Val Xaa Phe Gly  
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20 25 30

Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro  
50 55 60

Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly  
85 90 95

Ser His Val Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys  
100 105 110

Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu  
115 120 125

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe  
130 135 140

Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg  
145 150 155 160

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser  
165 170 175

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu  
180 185 190

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser  
195 200 205

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys Xaa Ala Ala Ala Leu  
210 215 220

Asp Ile Ile Lys Glu Ile Asn Met Lys Tyr Leu Leu Pro Thr Ala Ala  
225 230 235 240

Ala Gly Leu Leu Leu Ala Ala Gln Pro Ala Met Ala Leu Glu Val  
245 250 255

Lys Leu Val Glu Ser Gly Gly Leu Val Lys Pro Gly Gly Ser Leu  
260 265 270

Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr Ala Met  
275 280 285

Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val Ala Ser  
290 295 300

Ile Ser Ser Gly Gly Thr Thr Tyr Tyr Leu Asp Ser Val Lys Gly Arg  
305 310 315 320

Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Ile Leu Tyr Leu Gln Met  
325 330 335

Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys Val Arg Ser  
340 345 350

Glu Thr Asn Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Ala  
355 360 365

Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala  
370 375 380

Gln Thr Asn Ser Met Ile Thr Leu Gly Cys Leu Val Lys Asp Tyr Phe  
385 390 395 400

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly  
405 410 415

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu  
420 425 430

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr  
435 440 445

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys  
450 455 460

Val Glu Pro Lys Ser Cys Asp Lys Thr Ser  
465 470

<210> 11  
<211> 1421  
<212> DNA  
<213> murine

<400> 11  
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ggtatctgca gagaccagga caatctcctc agtcctgtat ctatttatg tccacccgtg 180  
caccaggagt ctcagaccgg tttagtggca ttgggtcagg aacagatttc accctggaaa 240  
tcagtagagt gaaggctgag gatgtgggtg tgtattatttgc tcaacaactt gttagtatac 300  
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gacaaaatgg cgccctgaac agttggactg atcaggacag caaagacagc acctacagca 540  
tgagcagcac cctcacgttg accaaggacg agtatgaacg acataacagc tatacctgtg 600  
aggccactca caagacatca acttcaccca ttgtcaagag cttcaacagg aatgagtgtt 660  
aagcggccgc actagatata attaaggaga taaatatgaa atatctgctg ccgaccgcgg 720  
cgccggccct gctgctgctg cgccgcgcgc cggcgatggc gctcgaggc caactgcagc 780  
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actacacatt cactgactat gaaatgcact gggtaagca gacacctgtg catggcctgg 900  
aatggattgg aggtattgtat cctgaaaactg gtggtaactgt ctacaatcag aagctcaagg 960  
gcaaggccac actgactgca gacaaagcct ccagcacggc ctacatggag ctccgaagcc 1020  
tgacatctga ggactctgcc gtctattact gtacggctgg tggattttgg ggccaaggga 1080

cctctggcac tgtctctgca gcacaaacaa cagccccatc ggtctatcca ctggccctg 1140  
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ccgaaccggc gacgggtgtcg tggaactcag gcgctctgac cagcggcgtg cacaccttcc 1260  
cggtgtcct acagtccctca ggactctact ccctcagcag cgtggtgacc gtgccatcca 1320  
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<212> PRT  
<213> murine

<400> 12

Thr Leu Trp Met Thr Gln Ala Glu Leu Ser Ser Pro Val Thr Ser Gly  
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Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu Tyr Lys  
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Tyr Leu Gln Arg Pro Gly Gln Ser  
35 40 45

Pro Gln Leu Leu Ile Tyr Phe Met Ser Thr Arg Ala Pro Gly Val Ser  
50 55 60

Asp Arg Phe Ser Gly Ile Gly Ser Gly Thr Asp Phe Ile Leu Glu Ile  
65 70 75 80

Ser Arg Val Lys Ala Glu Asp Val Gly Val Tyr Tyr Cys Gln Gln Leu  
85 90 95

Val Glu Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys  
100 105 110

Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu  
115 120 125

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe  
130 135 140

Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg  
145 150 155 160

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser  
165 170 175

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu  
180 185 190

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser  
195 200 205

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys Ala Ala Ala Leu Asp  
210 215 220

Ile Ile Lys Glu Ile Asn Met Lys Tyr Leu Leu Pro Thr Ala Ala Ala  
225 230 235 240

Gly Leu Leu Leu Ala Ala Gln Pro Ala Met Ala Leu Glu Val Gln  
245 250 255

Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala Ser Val Thr  
260 265 270

Leu Ser Cys Lys Ala Ser Asp Tyr Thr Phe Thr Asp Tyr Glu Met His  
275 280 285

Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp Ile Gly Gly Ile  
290 295 300

Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys Leu Lys Gly Lys  
305 310 315 320

Ala Thr Leu Thr Ala Asp Lys Ala Ser Ser Thr Ala Tyr Met Glu Leu  
325 330 335

Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Thr Ala Gly  
340 345 350

Val Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala Ala Lys Thr  
355 360 365

Thr Ala Pro Ser Val Tyr Pro Leu Ala Pro Val Cys Gly Asp Thr Thr

370

375

380

Gly Ser Ser Met Thr Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu  
385 390 395 400

Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His  
405 410 415

Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser  
420 425 430

Val Val Thr Val Pro Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys  
435 440 445

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu  
450 455 460

Pro Lys Ser Cys Asp Lys Thr Ser  
465 470

<210> 13  
<211> 108  
<212> PRT  
<213> murine

<400> 13

Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly  
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Asp Arg Val Thr Ile Ser Cys Arg Thr Ser Gln Asp Ile Ser Asn Tyr  
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Val Leu Ile  
35 40 45

Tyr Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Asn Asn Leu Glu Gln  
65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asn Thr Leu Pro Phe  
85 90 95

Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg  
100 105

<210> 14  
<211> 113  
<212> PRT  
<213> murine  
  
<400> 14

Asp Ile Val Met Thr Gln Ala Glu Leu Ser Ser Pro Val Thr Ser Gly  
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Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu Tyr Lys  
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Tyr Leu Gln Arg Pro Gly Gln Ser  
35 40 45

Pro Gln Leu Leu Ile Tyr Phe Met Ser Thr Arg Ala Pro Gly Val Ser  
50 55 60

Asp Arg Phe Ser Gly Ile Gly Ser Gly Thr Asp Phe Thr Leu Glu Ile  
65 70 75 80

Ser Arg Val Lys Ala Glu Asp Val Gly Val Tyr Tyr Cys Gln Gln Leu  
85 90 95

Val Glu Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys  
100 105 110

Arg

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<211> 114  
<212> PRT  
<213> murine  
  
<400> 15

Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ala Val Ser Val Gly  
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser  
20 25 30

Ser Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80

Ile Ser Ser Val Lys Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln  
85 90 95

Tyr Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu  
100 105 110

Lys Arg

<210> 16  
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<213> murine

<400> 16

Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Val Gly  
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser  
20 25 30

Ser Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Gly Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80

Ile Ser Ser Val Lys Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln  
85 90 95

Tyr Tyr Ser Tyr Pro Leu Thr Ile Gly Ala Gly Thr Lys Leu Glu Leu  
100 105 110

Lys Arg

<210> 17  
<211> 113  
<212> PRT  
<213> murine

<400> 17

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly  
1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser  
20 25 30

Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro  
50 55 60

Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly  
85 90 95

Ser His Val Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys  
100 105 110

Arg

<210> 18  
<211> 113  
<212> PRT  
<213> murine

<400> 18

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly  
1 5 10 15

Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp  
20 25 30

Tyr Glu Met His Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp  
35 40 45

Ile Gly Gly Ile Asp Pro Glu Ile Gly Gly Thr Val Tyr Asn Gln Lys  
50 55 60

Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Gly Thr Ala  
65 70 75 80

Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr  
85 90 95

Cys Thr Ser Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
100 105 110

Ala

<210> 19  
<211> 113  
<212> PRT  
<213> murine

<400> 19

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly  
1 5 10 15

Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Asp Tyr Thr Phe Thr Asp  
20 25 30

Tyr Glu Met His Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp  
35 40 45

Ile Gly Gly Ile Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys  
50 55 60

Leu Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ala Ser Ser Thr Ala  
65 70 75 80

Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr

85

90

95

Cys Thr Ala Gly Val Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
100 105 110

Ala

<210> 20  
<211> 113  
<212> PRT  
<213> murine  
  
<400> 20

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly  
1 5 10 15

Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp  
20 25 30

Tyr Glu Val His Trp Val Lys Gln Thr Pro Val Gln Gly Leu Asp Trp  
35 40 45

Ile Gly Gly Ile Asp Pro Glu Ser Gly Gly Thr Ala Tyr Asn Gln Lys  
50 55 60

Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Arg Thr Ala  
65 70 75 80

Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr  
85 90 95

Cys Thr Ala Gly Ala Asp Trp Gly Gln Gly Thr Leu Val Thr Val Phe  
100 105 110

Ala

<210> 21  
<211> 116  
<212> PRT  
<213> murine  
  
<400> 21

Leu Glu Val Gln Leu Lys Gln Ser Gly Ala Glu Leu Val Lys Pro Gly  
1 5 10 15

Ala Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp  
20 25 30

Thr Tyr Ile Asn Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp  
35 40 45

Ile Gly Arg Ile Asp Pro Ala Asn Asn Asn Thr Asn Tyr Asp Pro Lys  
50 55 60

Phe Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Pro Ser Asn Thr Ala  
65 70 75 80

Tyr Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Asp Val Tyr Tyr  
85 90 95

Cys Val Ser Gly Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu  
100 105 110

Thr Val Ser Ser  
115

<210> 22  
<211> 116  
<212> PRT  
<213> murine

<400> 22

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Phe Val Arg Pro Gly  
1 5 10 15

Ala Ser Val Lys Leu Ser Cys Thr Gly Ser Gly Phe Asn Ile Lys Asp  
20 25 30

Thr Tyr Met Asn Trp Val Ile Gln Arg Pro Glu Gln Gly Leu Glu Trp  
35 40 45

Ile Gly Met Ile Asp Pro Ala Asn Gly Asn Thr Gln Tyr Asp Pro Lys  
50 55 60

Phe Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala  
65 70 75 80

Tyr Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr  
85 90 95

Cys Thr Ser Gly Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu  
100 105 110

Thr Val Ser Ser  
115

<210> 23  
<211> 114  
<212> PRT  
<213> murine

<400> 23

Leu Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly  
1 5 10 15

Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp  
20 25 30

Tyr Ala Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp  
35 40 45

Val Ala Ser Ile Ser Ser Gly Gly Thr Thr Tyr Tyr Leu Asp Ser Val  
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Ile Leu Tyr  
65 70 75 80

Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys  
85 90 95

Val Arg Ser Glu Thr Asn Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val  
100 105 110

Ser Ser

<210> 24  
<211> 120  
<212> PRT  
<213> murine

<400> 24

Leu Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Lys  
1 5 10 15

Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Asn Thr  
20 25 30

Tyr Ala Met Asn Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Val Ala Arg Ile Arg Thr Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala  
50 55 60

Asp Ser Val Lys Asp Arg Phe Ser Val Ser Arg Asp Asp Ser Gln Ser  
65 70 75 80

Met Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met  
85 90 95

Tyr Tyr Cys Val Arg His Glu Gly Asp Trp Phe Ala Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Glu  
115 120

<210> 25  
<211> 120  
<212> PRT  
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<400> 25

Leu Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Lys  
1 5 10 15

Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Asn Thr  
20 25 30

Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Val Ala Arg Ile Arg Ser Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala  
50 55 60

Asp Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser  
65 70 75 80

Met Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met  
85 90 95

Tyr Tyr Cys Val Arg His Glu Gly Asp Trp Phe Ala Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ala  
115 120

<210> 26  
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<213> murine

<400> 26

Leu Glu Val Lys Leu Val Glu Ser Gly Gly Leu Val Gln Pro Lys  
1 5 10 15

Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Asn Thr  
20 25 30

Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Val Ala Arg Ile Arg Ser Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala  
50 55 60

Asp Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser  
65 70 75 80

Met Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met  
85 90 95

Tyr Tyr Cys Val Arg His Glu Gly Asp Trp Phe Ala Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ala  
115 120

<210> 27

<211> 120  
<212> PRT  
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<400> 27

Leu Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Lys  
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Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Asn Thr  
20 25 30

Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Val Ala Arg Ile Arg Ser Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala  
50 55 60

Asp Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser  
65 70 75 80

Met Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met  
85 90 95

Tyr Tyr Cys Val Arg His Glu Gly Asn Trp Phe Ala Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ala  
115 120

<210> 28  
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<212> PRT  
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<400> 28

Leu Glu Val Gln Leu Gln Ser Gly Ala Glu Leu Ala Lys Pro Gly  
1 5 10 15

Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn  
20 25 30

Ser Trp Ile His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp  
35 40 45

Ile Gly Tyr Ile His Pro Gly Pro Gly Tyr Thr Glu Tyr Asn Gln Asn  
50 55 60

Phe Lys Asp Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala  
65 70 75 80

Tyr Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr  
85 90 95

Cys Ile Arg Gly Gly Asp Trp Gly Tyr Trp Gly Gln Gly Thr Ser Val  
100 105 110

Thr Val Ser Ser  
115

<210> 29  
<211> 116  
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<400> 29

Leu Glu Val Gln Leu Lys Gln Ser Gly Ala Glu Leu Val Lys Pro Gly  
1 5 10 15

Ala Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp  
20 25 30

Thr Tyr Met Asn Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp  
35 40 45

Ile Gly Gly Ile Asp Pro Ala Asn Asp Asn Thr Glu Tyr Val Pro Lys  
50 55 60

Phe Gln Gly Arg Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala  
65 70 75 80

Tyr Leu Gln Leu Arg Ser Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr  
85 90 95

Cys Val Thr Gly Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu  
100 105 110

Thr Val Ser Ser  
115

<210> 30  
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<400> 30

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly  
1 5 10 15

Ala Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp  
20 25 30

Thr Tyr Met Asn Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp  
35 40 45

Ile Gly Gly Ile Asp Pro Ala Asn Asp Asn Thr Glu Tyr Val Pro Lys  
50 55 60

Phe Gln Gly Arg Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala  
65 70 75 80

Tyr Leu Gln Leu Arg Ser Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr  
85 90 95

Cys Val Thr Gly Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu  
100 105 110

Thr Val Ser Ser  
115

<210> 31  
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<400> 31

Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly  
1 5 10 15

Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp  
20 25 30

Tyr Glu Met His Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp

35

40

45

Ile Gly Gly Ile Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys  
50 55 60

Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala  
65 70 75 80

Tyr Met Glu Leu Arg Ser Gln Thr Ser Glu Asp Ser Ala Val Tyr Tyr  
85 90 95

Cys Thr Arg Trp Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser  
100 105 110

Ser

<210> 32  
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<400> 32

Leu Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Lys  
1 5 10 15

Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Thr  
20 25 30

Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Val Ala Arg Ile Arg Thr Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala  
50 55 60

Asp Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser  
65 70 75 80

Met Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Thr  
85 90 95

Tyr Tyr Cys Val Arg Gln Gly Glu Asn Arg Phe Ala Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ala  
115 120

<210> 33  
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Leu Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly  
1 5 10 15

Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp  
20 25 30

Tyr Glu Met His Trp Val Lys Gln Thr His Val His Gly Leu Glu Trp  
35 40 45

Ile Gly Gly Ile Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys  
50 55 60

Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala  
65 70 75 80

Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr  
85 90 95

Cys Thr Ser Ser Leu Pro Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
100 105 110

Ala

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Gln Asp Ile Ser Asn Tyr  
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Lys Ser Leu Leu Tyr Lys Asp Gly Lys Thr Tyr  
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Gln Ser Leu Leu Tyr Ser Ser Asn Gln Lys Asn Tyr  
1 5 10

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Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr  
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Gly Tyr Thr Phe Thr Asp Tyr Glu Met His  
1 5 10

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Asp Tyr Thr Phe Thr Asp Tyr Glu Met His  
1 5 10

<210> 40  
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<400> 40

Gly Tyr Thr Phe Thr Asp Tyr Glu Val His  
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<210> 41  
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<400> 41

Gly Phe Asn Ile Lys Asp Thr Tyr Ile Asn  
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<210> 42  
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<400> 42

Gly Phe Thr Phe Ser Asp Tyr Ala Met Ser  
1 5 10

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Gly Phe Asn Phe Asn Thr Tyr Ala Met Asn  
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Gly Tyr Thr Phe Thr Asn Ser Trp Ile His  
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Gly Phe Asn Ile Lys Asp Thr Tyr Met Asn  
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Gly Tyr Thr Phe Thr Asp Tyr Glu Met His  
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<210> 47

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Gly Phe Thr Phe Asn Thr Tyr Ala Met Asn  
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Gly Tyr Thr Phe Thr Asp Tyr Glu Met His  
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Tyr Thr Ser

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Phe Met Ser  
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Trp Ala Ser  
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Lys Val Ser  
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<400> 53

Gly Ile Asp Pro Glu Ile Gly Gly Thr Val Tyr Asn Gln Lys Phe Lys  
1 5 10 15

Gly

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<400> 54

Gly Ile Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys Leu Lys  
1 5 10 15

Gly

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<400> 55

Gly Ile Asp Pro Glu Ser Gly Gly Thr Ala Tyr Asn Gln Lys Phe Lys  
1 5 10 15

Gly

<210> 56  
<211> 17  
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<400> 56

Arg Ile Asp Pro Ala Asn Asn Asn Thr Asn Tyr Asp Pro Lys Phe Gln  
1 5 10 15

Gly

<210> 57  
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Met Ile Asp Pro Ala Asn Gly Asn Thr Gln Tyr Asp Pro Lys Phe Gln  
1 5 10 15

Gly

<210> 58  
<211> 16  
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<400> 58

Ser Ile Ser Ser Gly Gly Thr Thr Tyr Tyr Leu Asp Ser Val Lys Gly  
1 5 10 15

<210> 59  
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Arg Ile Arg Thr Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp Ser  
1 5 10 15

Val Lys Asp

<210> 60  
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Arg Ile Arg Ser Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp Ser  
1 5 10 15

Val Lys Asp

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Tyr Ile His Pro Gly Pro Gly Tyr Thr Glu Tyr Asn Gln Asn Phe Lys  
1 5 10 15

Asp

<210> 62  
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Gly Ile Asp Pro Ala Asn Asp Asn Thr Glu Tyr Val Pro Lys Phe Gln  
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Gly

<210> 63  
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Gly Ile Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys Phe Lys  
1 5 10 15

Gly

<210> 64  
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<400> 64

Arg Ile Arg Thr Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp Ser  
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Val Lys Asp

<210> 65  
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<400> 65

Gly Ile Asp Pro Glu Thr Gly Gly Thr Val Tyr Asn Gln Lys Phe Lys  
1 5 10 15

Gly

<210> 66  
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Gln Gln Gly Asn Thr Leu Pro Phe Thr Phe Gly Ser Gly  
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Gln Gln Leu Val Glu Tyr Pro Leu Thr Phe Gly Ala Gly  
1 5 10

<210> 68  
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<400> 68

Gln Gln Tyr Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly  
1 5 10

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Gln Gln Tyr Tyr Ser Tyr Pro Leu Thr Ile Gly Ala Gly  
1 5 10

<210> 70  
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Phe Gln Gly Ser His Val Pro Leu Thr Phe Gly Ala Gly  
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Phe Ala Tyr  
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Gly Val Tyr  
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Gly Ala Asp  
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Gly Gly Tyr Phe Asp Tyr  
1 5

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Ser Glu Thr Asn Tyr  
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His Glu Gly Asp Trp Phe Ala Tyr  
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His Glu Gly Asn Trp Phe Ala Tyr  
1 5

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Gly Gly Asp Trp Gly Tyr  
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Gly Gly Tyr Phe Asp Tyr  
1 5

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Trp Asp Tyr  
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Gln Gly Glu Asn Arg Phe Ala Tyr  
1 5

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Ser Leu Pro  
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tccaaggcaca tttgctgcag tgaccatcaa agaaacatta aatgcaaata taaattctac 240  
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agtaaaaacg tgaaagtccc tatttttagag gaagatacac cctctgttat ggaaattgaa 480  
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Val Pro Val Gly Arg Gly Asn Tyr Glu Glu Leu Glu Asn Ser Gly Asp  
20 25 30

Thr Thr Val Glu Ser Glu Arg Pro Asn Lys Val Thr Ile Pro Ser Thr  
35 40 45

Phe Ala Ala Val Thr Ile Lys Thr Leu Asn Ala Asn Ile Asn Ser Thr  
50 55 60

Asn Phe Ala Pro Asp Glu Asn Gln Leu Glu Phe Ile Leu Met Val Leu  
65 70 75 80

Ile Pro Leu Ile Leu Leu Val Leu Leu Leu Ser Val Val Phe Leu  
85 90 95

Ala Thr Tyr Tyr Lys Arg Lys Arg Thr Lys Gln Glu Pro Ser Ser Gln  
100 105 110

Gly Ser Gln Ser Ala Leu Gln Thr Tyr Glu Leu Gly Ser Glu Asn Val  
115 120 125

Lys Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu Ile Glu  
130 135 140

Met Glu Glu Leu Asp Lys Trp Met Asn Ser Met Asn Arg Asn Ala Asp  
145 150 155 160

Phe Glu Cys Leu Pro Thr Leu Lys Glu Glu Lys Glu Ser Asn His Asn  
165 170 175

Pro Ser Asp Ser Glu Ser  
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Ile Pro Leu Ala Ala Leu Leu Ile Leu Leu Phe Xaa Val Leu Ile Ala  
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Thr Tyr Phe Lys Ser Lys Arg Pro Lys Gln Glu Pro Ser Ser Gln Gly  
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Ser Gln Ser Ala Leu Gln Thr Xaa Glu Leu Gly Gly Glu Thr Leu Lys  
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Val Pro Ile Phe Glu Glu Asp Thr Pro Ser Val Met Glu Ile Glu Met  
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Val Ala Arg Ile Arg Thr Lys Ser Asn Asn Tyr Ala Thr Tyr Tyr Ala  
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Asp Ser Val Lys Asp Arg Phe Ser Val Ser Arg Asp Asp Ser Gln Ser  
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